Red Line Blue Line
CONNECTOR

INTRODUCTION

The proposed Red Line/Blue Line Connector is a project of the Massachusetts Department of Transportation (MassDOT). The project would extend the MBTA Blue Line approximately 1,500 feet beneath Cambridge Street to connect with the Red Line at Charles/MGH Station.

The project would link the only two lines that do not currently intersect within the MBTA's rapid transit system. It would fulfill a longstanding commitment to increase public transit ridership and system capacity.

DRAFT ENVIRONMENTAL IMPACT REPORT

The Draft Environmental Impact Report (DEIR) summarizes the environmental consequences and construction impacts of the alternatives. It is available on the project website or by request (see page 6).

The DEIR summarizes two Build Alternatives and the No-Build Alternative that MassDOT evaluated. The Preferred Alternative would extend the Blue Line from Bowdoin Station to Charles/MGH Station, eliminating the existing Bowdoin Station (see the map on page 3). This alternative provides the best balance of cost, ridership and environmental impacts. It would operate reliably and has a lower capital cost than keeping Bowdoin Station. There are no significant differences between the alternatives in terms of benefits or impacts. These findings are detailed in the DEIR for public review.

The Key Goals of the Red Line/Blue Line Connector Project are to:

- Link East Boston and North Shore residents with jobs, services, and educational opportunities in Boston's West End, Cambridge and Somerville;
- Enhance regional access to Mass General Hospital, Mass Eye and Ear Infirmary, and surrounding medical facilities;
- Relieve congestion pressure at other stations in Downtown Boston;
- Improve access from Cambridge, Somerville, and northwestern suburbs to jobs, services, and attractions in Downtown Boston, East Boston, the North Shore and at Logan International Airport.

ANALYZING THE ALTERNATIVES

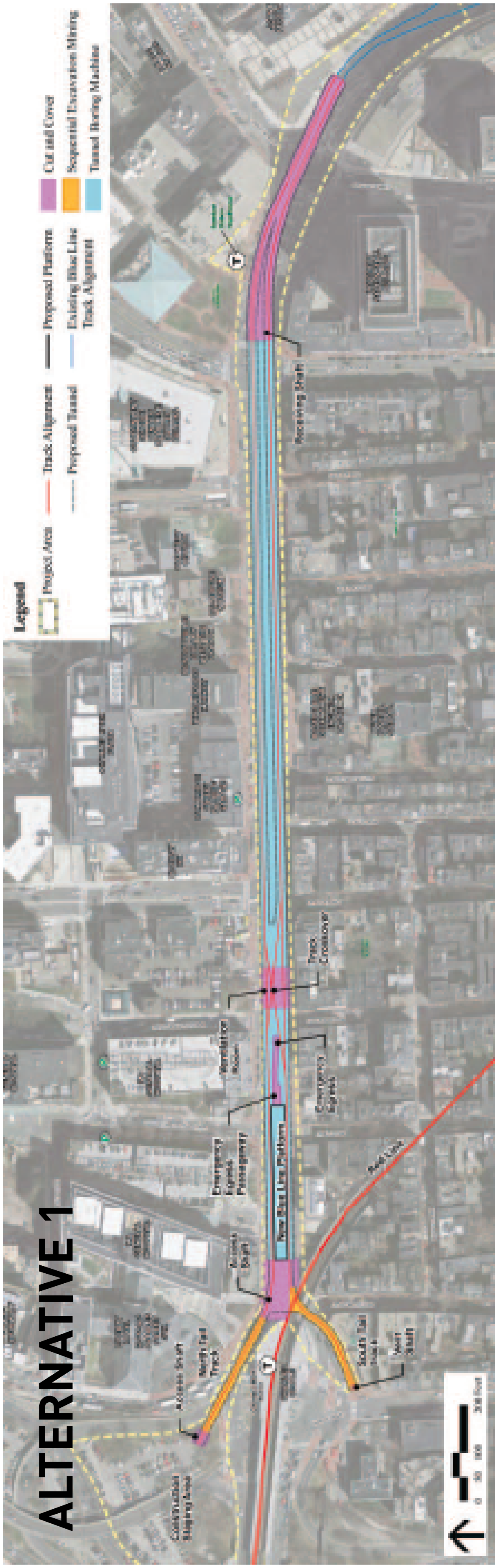
MassDOT's process for studying the alternatives for connecting the Blue Line to the Red Line began with the filing of an Expanded Environmental Notification Form (EENF) with the Secretary of Energy and Environmental Affairs in September 2007. After public review and comment on the document, the Secretary issued a Certificate with a scope of work and other requirements for a Draft Environmental Impact Report (DEIR). MassDOT prepared a DEIR that responds to the major issues in the Secretary's Certificate on the EENF with the goal of streamlining the process. After public review and comment, MassDOT hopes that the Secretary will determine that the DEIR will serve as a Final Environmental Impact Report (FEIR).

As required in the Certificate, MassDOT examined three alternatives that are summarized in the DEIR:

- No-Build Alternative
- Alternative 1: Blue Line Extension to Charles/MGH Station with Bowdoin Station Eliminated; and
- Alternative 2: Blue Line Extension to Charles/MGH Station with Bowdoin Station Relocated.

NO-BUILD

The No-Build Alternative describes current Red Line and Blue Line operations with the addition of approved infrastructure improvements. These changes are being conducted as part of the Blue Line Modernization Project and are described in Journey to 2030, the region's long-term transportation plan.



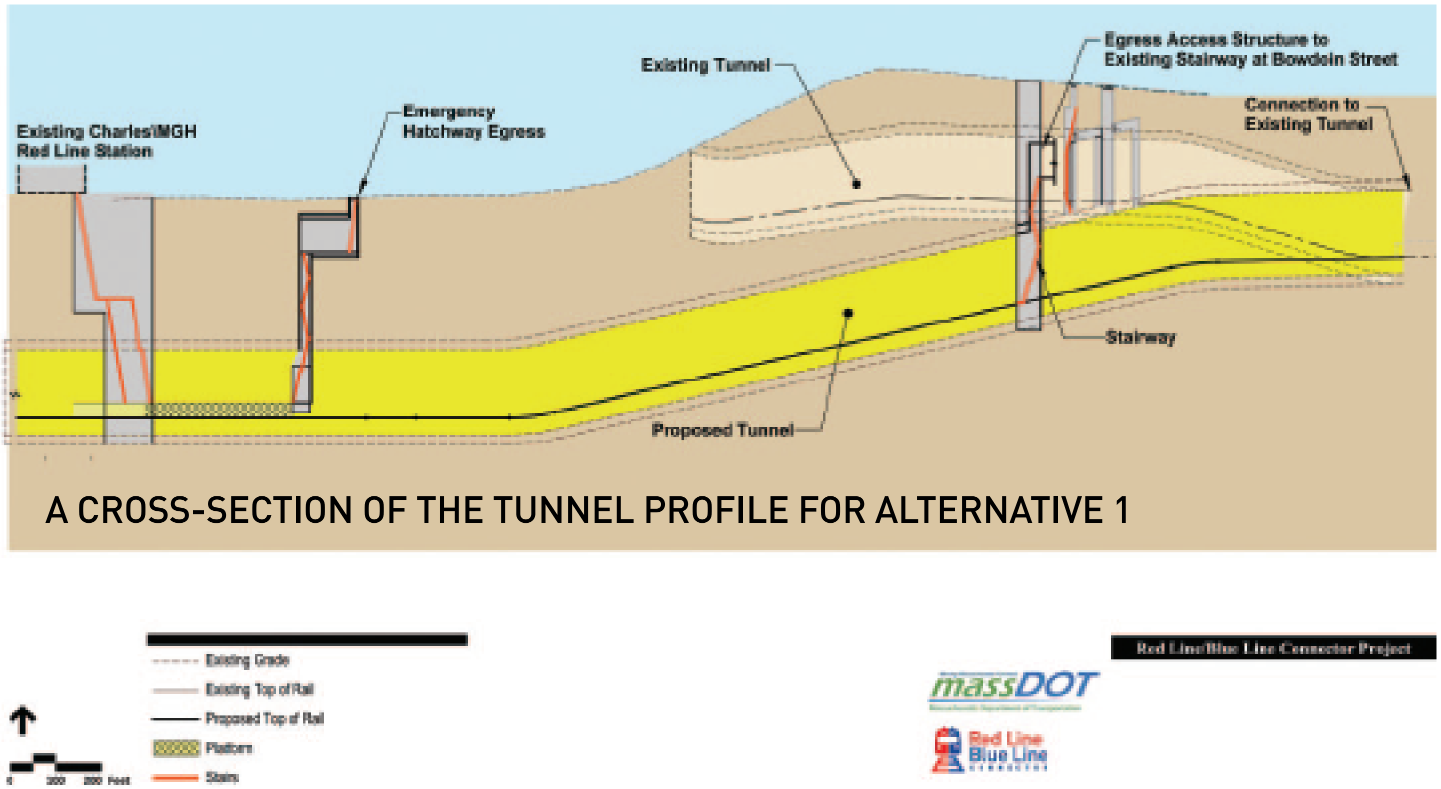
The map of Alternative 1, the preferred option, shows the limits of the project, including the surface and tunnel construction.

ALTERNATIVE 1:
BLUE LINE EXTENSION WITH BOWDOIN STATION ELIMINATED

Alternative 1 would extend the Blue Line from Bowdoin Station to Charles/MGH Station, eliminating the existing Bowdoin Station. The station would be deactivated, although an emergency passageway would remain. The MBTA would construct a new underground Blue Line platform below the existing Charles/MGH Station. The new Blue Line platform would connect to the existing elevated Red Line platforms using stairways, elevators and escalators to allow passengers to transfer easily between lines.

Alternative 1 would primarily be constructed using a tunnel boring machine. Two parallel tunnels would be built beneath Cambridge Street, which has many buried utilities. There would be access points on the surface at each end of the tunnel. Surface disruption would be minimized using this technique. A proposed staging area for construction materials and supplies would be in a portion of the Mass Eye and Ear Infirmary parking lot.

Design of the alternatives is only at the 10% level, so cost estimates are preliminary. The estimated cost of Alternative 1 is $621 million (in 2009 dollars; at the mid-point of construction, the escalated cost would be $748 million). This cost estimate also includes a 40% contingency allowance. Construction would take approximately 6 years.



Existing Charles/MGH Red Line Station
Emergency Hatchway Egress
Existing Tunnel
Egress Access Structure to Existing Stairway at Bowdoin Street
Connection to Existing Tunnel
Stairway
Proposed Tunnel
Existing Grade
Existing Top of Rail
Proposed Top of Rail
Platform
Stairs
0 100 200 Feet
Red Line/Blue Line Connector Project
massDOT
Red Line Blue Line Connector

A CROSS-SECTION OF THE TUNNEL PROFILE FOR ALTERNATIVE 1

ALTERNATIVE 2: BLUE LINE EXTENSION WITH BOWDOIN STATION RELOCATED

Alternative 2 would also extend the Blue Line from Bowdoin Station to Charles/MGH Station, but the Bowdoin Station platform would be relocated to a lower level. The existing entrance and mezzanine would remain the same. The new platform at Bowdoin would accommodate six-car trains. There would be access via escalators, elevators and stairs to the lower platform. The platform change would be done to match the slope needed to extend the tunnel to the lower level of Charles/MGH at the foot of Cambridge Street.

As with Alternative 1, a new Blue Line platform would be built east of and below the existing Charles/MGH Station, with connections made via elevators, escalators and stairs. Based on a 10% level of design, the estimated cost to construct Alternative 2 is $718 million (in 2009 dollars; the mid-point of construction estimate is $867 million). This cost estimate also includes a 40% contingency allowance. Alternative 2 would also take six years to construct.

COMMON CONSTRUCTION FEATURES & IMPACTS

Alternatives 1 and 2 would both be constructed using a tunnel boring machine (TBM) under Cambridge Street for most of the alignment. Except for access points at either end of the segment, the tunnel boring work would be below grade.

Three sections of the alternatives would be constructed using a mix of cut-and-cover and sequential excavation mining methods. Decking would be installed over the excavations to minimize disruption of surface traffic. These areas include:

- An area east of Bowdoin Station, 550 feet long, to realign the existing tracks and allow the tunnel boring machine to be removed;
- A segment east of Charles/MGH Station to install the tunnel boring machine and build vertical station components east of Charles/MGH; and
- Construction of short tail tracks west of Charles/MGH Station would be undertaken using the sequential excavation mining method because there is a sharp bend in the tunnel alignment, making it impossible for the TBM to reach it.

The DEIR outlines more details on the proposed construction plan for each alternative.

ENVIRONMENTAL CONSEQUENCES

Chapters 5 and 6 of the DEIR describe temporary and permanent impacts of each alternative related to (1) environmental consequences and (2) construction period impacts. The project would benefit users of the MBTA system and it would have regional air quality benefits. There are no differences between the alternatives with respect to benefits or impact. Project benefits include:

- An overall reduction in weekday vehicle miles travelled by approximately 5,250 (in 2030), including a general decrease in Cambridge Street traffic;
- Reductions of pollutant compounds as compared to 2009 levels;
- Increased access to transit and shorter travel times for environmental justice populations.

Because the project would operate entirely below ground, there would be no permanent changes to Cambridge Street, with the exception of vents, emergency escape hatches and protective features in the median. There would be no permanent impacts to stormwater, existing transportation systems, hazardous materials, land use and parks and historic and archeological resources.

Potential permanent impacts include noise from vibration and groundwater seepage, which would be minor. Noise could be generated by the trains passing over track joints at crossover locations. The sound would be mitigated using special track structures. Groundwater could seep into the tunnel. This seepage would be mitigated using grouting within the tunnel and underpinning piers and foundations, as necessary. Groundwater levels would be monitored during and after construction.

CONSTRUCTION IMPACTS

Most of the impacts associated with building the Red Line/ Blue Line Connector would be temporary and related to construction. The DEIR lists potential impacts to a number of resources and describes proposed mitigation (Table 7.2 of the DEIR outlines these items). Bowdoin Station will be closed during most of the construction - either permanently or for reconstruction, depending on the alternative. The impacts of the alternatives do not differ significantly otherwise. There will be short-term busing of Blue Line passengers to accommodate some construction requirements. Traffic detours would be required to route vehicles around construction of the cut-and-cover segments until decking is installed. In general, Cambridge Street will remain open during construction, with the exception of limited lane closures that may be scheduled for nights or weekends to avoid disrupting traffic during peak travel times. Alternative 2 could temporarily affect groundwater levels in the vicinity of Bowdoin Station.

RIDERSHIP

For the Preferred Alternative, extending the Blue Line with Bowdoin Station eliminated, there would be 22,390 daily boardings at Charles/MGH in 2030. This represents 12,000 additional daily boardings over the No-Build. The Preferred Alternative would include 5,610 transfers between the Red and Blue Lines at Charles/MGH Station. Under the No-Build scenario, there would be 10,050 daily boardings at Charles/MGH Station. By 2030, under the Preferred Alternative, vehicle miles travelled (VMT) would be reduced by 5,250 per day compared to the No-Build scenario. The improved transit access and ridership under the Preferred Alternative will result in better mobility along the Blue Line corridor, improved traffic conditions and improved service to environmental justice populations. It would support future smart growth initiatives and sustainable development.

SUMMARY

MassDOT has chosen extending the Blue Line to Charles/MGH Station and eliminating Bowdoin Station as the Preferred Alternative. This alternative provides the best balance of cost, ridership and environmental impacts. It would have a lower capital cost than the extension with Bowdoin Station. Alternative 1 would meet all project goals, would be practical to operate, and would generate a high number of new system-wide transit trips. MassDOT also believes that this alternative will help the Commonwealth achieve its goal of improving regional air quality and providing better transportation connections.

Copies of the Draft Environmental Impact Report (DEIR) are available in the Boston, Cambridge, Chelsea, Revere, Somerville and Winthrop Public Libraries; the State House Library; the State Transportation Library; on the project website; and by request from Regan Checchio **617-357-5772** or **rchecchio@reginavilla.com**.

Written comments on the project should be sent to:

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Comments must be received no later than May 21, 2010.

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